

REMARKS/ARGUMENTS

The Examiner's Action of April 8, 2005, has been received and reviewed by counsel for Assignee. In that Action claims 1-36 were presented for examination, and all claims were rejected. Selected claims were rejected under 35 U.S.C. § 112 for reasons discussed below, and all claims were rejected under 35 U.S.C. § 102(e) as anticipated by U.S. Patent 6,601,101 to *Lee et al.*

By this response counsel submits a new Abstract to comply with the Patent Office requirements, and amends selected claims to clarify the manner in which they patentably distinguish the cited reference.

Section 112 Rejection

The Examiner rejected claims 1, 15, 20, 27 and 36 under 35 U.S.C. § 112 as indefinite with regard to the term "pair of storage elements." The Examiner is correct that these claims use that term to mean "two or more storage units." The specification clearly does define this term in this manner. At paragraph [69] the specification states:

"A pair is defined as a group of disk drives which represents a data mirroring unit. One of the disk drives within a pair is called a master disk drive and the others are called mirrored disk drives." (emphasis added)

Thus, counsel believes that the specification appropriately defines the concept of pairing in a manner that matches that found throughout the claims. To further clarify the issue, however, counsel has amended each of the rejected claims to delete the phrase "one or more" and replace it with "at least one." This should add additional clarity to the claims and reduce any ambiguity.

Section 102(e) Rejections

The Examiner rejected all claims under Section 102(e) relying upon U.S. Patent 6,601,101 to *Lee et al.*

The '101 patent, however, clearly does not teach at least one aspect of the invention as claimed by Applicant. In particular, each of Applicant's claims now requires that the information be stored in each one of the pair of storage elements, and that when a request for that information is made, a determination is made of which one of the pair of storage elements is to be accessed based upon use of the storage system (claim 1) or the load

information (claim 27). All the other independent claims also use one or the other of these restrictions for determination of which one of the disk drives is to be accessed.

In particular, as now presented for examination, all of the claims presented require that when information is to be retrieved from one or the other of the pair of disk drives, a determination is made as to which one of the pair will provide the information based upon use of the storage system or previous loading of the storage system. Advantages of this system are discussed, *inter alia*, in paragraphs [22] and [23]. For example, as described in paragraph [23], the particular technique invented and claimed herein enables balancing of the load of input/output operations. This prevents multiple host computers from concurrently utilizing the same disk drive of the same storage system at the same time, which degrades performance.

The Prior Art

The *Lee et al.* reference clearly does not teach or suggest this benefit of Applicant's invention. At the portion of the *Lee et al.* cited by the Examiner in support of the selection of a storage element from the pair of storage elements, i.e., column 17, lines 23-44, this feature is not described. At that location the overall operation of a storage system in response to a request from a server is described. In particular, there is a discussion of techniques for aggregating switches (the connections between the host computers and the storage system). Various file systems are described, and a protocol for communicating between the file systems and the hosts is described. An auto configuration function is described.

Counsel, however, does not find anything in the cited portions of *Lee et al.* '101 which suggests the load balancing benefits described and claimed by Applicant herein. In particular, nothing in the cited portions of *Lee et al.* '101 appears to suggest the idea of retrieving file information from one or the other of paired storage elements based upon use of the storage system (by other hosts), based upon information regarding access loading of various disk drives (e.g., claim 27).

Because the cited reference does not show or suggest this important claimed feature of the invention, and because that feature is recited in each of the independent claims, counsel believes that all claims presented for further examination are patentable over the

cited reference. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-324-6303 (direct).

Respectfully submitted,



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